



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,352	12/31/2001	Philip T. Dempster	LM-001	3851
1473	7590	08/20/2004	EXAMINER	
FISH & NEAVE 1251 AVENUE OF THE AMERICAS 50TH FLOOR NEW YORK, NY 10020-1105			ROGERS, DAVID A	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 08/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/036,352	Applicant(s) DEMPSTER ET AL.	
	Examiner David A. Rogers	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 39-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 39-42, 46, 49 and 52-55 is/are rejected.
- 7) ☒ Claim(s) 43-45, 47, 48, 50, 51 and 56-58 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Receipt and entry of the applicant's amendment filed 25 June 2004 is acknowledged. Claims 1-38 and 59-76 have been cancelled. Claims 39-58 remain pending in this application.

Drawings

2. Receipt of the applicant's amended figure 3B is acknowledged. Receipt of the applicant's formal drawings is also acknowledged. These formal drawings are not acceptable due to additional minor informalities not previously noticed by the examiner or the applicant and noted below.

The applicant discloses that reference item 50 is a contact point on the outer hinge leaf (see page 8, line 24). However, on figure 2A there is a part below the outer hinge leaf with the reference label "50". Also, on figure 2B there are two areas with the label "50". It is suggested that the applicant clarify the correct part number for figures 2A and 2B, and amend the specification as needed.

On figure 3A the applicant has added latch reference item 28. It is suggest that the applicant delete this addition as latch 28, as disclosed, is the generic term for the two individual latch portions (reference items 60 and 62).

On figure 3B, on the upper right of the figure is a reference item 62 that should be renumbered to reference item 73. On the lower right is a reference item 73 that should be renumbered to reference item 74.

3. Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Response to Arguments

4. The arguments in response to the previous office action have been thoroughly considered with respect to the applicant's specification. The arguments traversing the rejections of claims 39 and 49 are not convincing for the following reasons.

Claim 39

5. The applicant argues that there is no motivation to combine the teachings of Jaeger (United States Patent 3,511,237), Webb (United States Patent 406,247), and Baumann (United States Patent 2,164,047) in rejecting claim 39. With regard to Jaeger the applicant states that there is nothing in this reference suggesting any combination with Webb or Baumann, and then further contends that, because the hinge is unlabeled it must not be important. The applicant further argues that neither Webb nor Baumann teach a hinge for a plethysmographic chamber. Additionally, the applicant contends that neither Jaeger nor Webb discuss "repeatable door closure" on a plethysmographic

chamber. Finally, the applicant argues that the combination of Jaeger, Webb, and Baumann lacks a reasonable expectation of success.

First, the phrase “repeatable door closure” is interpreted by the examiner as a door that can open and close repeatedly. Support for this interpretation can be found in the applicant’s specification. See page 7, paragraph 0032 where it is stated “dual-articulating hinge 26 permanently affixes chamber door 24 to chamber wall 22, and allows chamber door 24 to open and close.”

With regard to the applicant’s first argument, the examiner is not aware of any requirement set for the in the MPEP or other matter of law that requires a reference to expressly or implicitly state possible modifications with other references. That is, there is no requirement that mandates Jaeger to disclose any or all possible modifications that can be done. The requirement as suggested by the applicant would mandate all rejections to be made under 35 U.S.C. 102 vice 35 U.S.C. 103, which the applicant knows is not correct. Furthermore, Webb teaches a preferred use for their hinge. However, despite the applicant’s contention, Webb need not suggest or discuss plethysmographic chambers for there to be motivation to use the dual-articulating hinge on a plethysmographic chamber or on any other door that needs to be repeatedly opened and closed. In both cases the applicant is arguing against references individually. As the applicant is well aware one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See MPEP §2145, section IV and *In re Keller*, 642

F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Jaeger teaches a plethysmographic chamber comprising a door that is used for measuring volume. The plethysmographic chamber of Jaeger must have to have at least one hinge in order to repeatedly open and close. Jaeger expressly teaches that the chamber must be substantially air-tight and that the changes to the interior volume, even small changes relative to the chamber's volume size, must be avoided. Jaeger further expressly teaches that door opening and closing or people moving near the chamber can influence any volume measurement within the chamber. Therefore, in view of the above, Jaeger clearly has motivation to ensure that the door is properly secured to the chamber, is properly aligned with the chamber, and does not allow the interior volume to change.

According to the applicant's arguments, their dual-articulating hinges "accurately and repeatedly define the clearance between the chamber door 24 and the chamber wall 22." See page 14 of the applicant's arguments. In response, it is noted that the above limitation presented by the applicant is not in the claim as originally filed or as amended. All that the claim requires is a double-articulating hinge that can repeatedly open and close a door of a plethysmographic chamber. There is nothing in the claim that requires accurate and repeated clearance between the chamber and door. With this understanding, there is nothing unique with regard to the double-articulating

hinge as claimed by the applicant. In fact, there are no structural limitations with regard to the applicant's hinge that distinguish it over any other commonly available double-articulating hinges that can be found in almost any hardware store. An example of such a double-articulating hinge can be seen in Webb (figure 3), which is similar to those found in the many hardware stores. Like any generic double-articulating hinge, the hinge leaf surfaces (reference items D and F) can abut the joining surface (reference item E) when used. This abutment can define an absolute maximum amount of opening and/or closing. When used, these absolute maximums will allow for "repeatable door closure" and have a defined clearance.

Next, the hinges of Jaeger must aid in ensuring that there is minimal or no changes in the volume of the chamber. That is, the hinge(s) of Jaeger must be of sufficient size, shape, strength, etc. (along with mounting to strong locations on the door/chamber) to allow the door to mate with the chamber in order to help "avoid the risks of disturbances as a result of unwanted effects" (Jaeger, column 1, lines 50-51). Replacing the hinge(s) on Jaeger with a common, every day, double-articulating hinge would have been obvious. That is what hinges, even double-articulating hinges, are for: opening doors. All that is would be required is for the double-articulating hinge to be of sufficient size, shape, and strength to keep the door from creating volume disturbances as suggested by Jaeger.

Furthermore, it is not patentable to use a known hinge, even a double-articulating hinge, on a door. If it was then patents would be available to anyone that placed a double-articulating hinge on any door that used only a single-articulating hinge. The applicant is referred to MPEP §2144.07 and *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 8 USPQ2d 1323 (Fed. Cir. 1988) (Claimed agricultural bagging machine, which differed from a prior art machine only in that the brake means were hydraulically operated rather than mechanically operated, was held to be obvious over the prior art machine in view of references which disclosed hydraulic brakes for performing the same function, albeit in a different environment.).

Somehow, though, the applicant believes that their claimed double-articulating hinge is non-obvious relative to any other double-articulating hinge on any other door. However, if the structure of the prior art hinge is the same as that claimed by the applicant (it is as taught by Webb's figure 3), and it is incorporated on plethysmographic chamber (on the door/wall of Jaeger), then the result must inherently be a hinge that facilitates repeatable door closure as claimed by the applicant.

Next, despite the applicant's contention, motivation to combine references need not come from implicit or explicit suggestions in the prior art. See MPEP §2144 where it is stated that the rationale to modify or combine the prior art does not have to be expressly stated in the prior art; the rationale may be expressly or impliedly contained in the prior art or it may be reasoned from

knowledge generally available to one of ordinary skill in the art, established scientific principles, or legal precedent established by prior case law. In this case the general knowledge is that double-articulating hinges allows one to open doors wider than with single articulating hinges. This is clearly shown in Baumann (figure 12) where the double-articulating hinges allows the door to open wider than with conventional single-articulating hinges. This would be preferred if one was trying to move larger subjects into the chamber of Jaeger, or even for routine cleaning, inspection, and repairing of the chamber.

The above rebuttal of the applicant's arguments assumes that the hinge of Jaeger has some critical nature that makes the chamber function. However, the applicant also argues, in addition to the lack of motivation to combine the three references, that the hinge, being unlabeled, must be unimportant to the device of Jaeger. However, the applicant cannot have it both ways: either the hinge of Jaeger is important to the functionality of the chamber or it is not. If it is not then it would truly be obvious to have any hinge of any design (single-articulating, double-articulating, knuckle, butt, spring, etc.) providing any preferred door opening/closing on the chamber of Jaeger. If it is important to the functioning of the chamber of Jaeger then there must be an identification of that criticality along with some motivation to alter its critical function with some other hinge design. This has already been noted in the rebuttal above.

Finally, with regard to the applicant's arguments against a reasoned expectation of success, it is noted that the examiner's reason for combining

references need not be the same as that of the applicant's. See MPEP 2144.01 where it is stated that the reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant. *In re Linter*, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972). Here, the combination of references allows one to open a door wider than with a single-articulating hinge. There is clear suggestion that success to do this is known in the general knowledge available to anyone of ordinary skill, and it is taught by Baumann. If there is an additional advantage that, by using a double-articulating hinge, the door maintains a predetermined clearance with the wall of the chamber, then that might also be beneficial. However, there is a general, reasonable expectation of success of adding a double-articulating hinge for increasing the opening clearance of the door.

Claim 49

6. The applicant argues that there is no motivation to combine the teachings of Jaeger (United States Patent 3,511,237), Dempster ("A New Air Displacement Method for the Determination of Human Body Composition"), and Bailey (United States Patent 4,915,431) in rejecting claim 49. With regard to Bailey the applicant states that this electromagnetic lock does not permit lateral movement of the chamber door with respect to the chamber wall.

The applicant states that their magnetic door latch comprises, as detailed in the specification, two latch members (reference items 60 and 62) with an associated a roller ball (reference item 66) and an insert plate (reference item 78). It is noted that claim 49, as originally presented or as amended by the applicant, does not provide for a latch member comprising the above structure. Here the applicant is arguing limitations which are not present in the claims. See MPEP §2145, section VI, where it is stated that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993) and *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571-72, 7 USPQ2d 1057, 1064-1065 (Fed. Cir.), *cert. denied*, 488 U.S. 892 (1988) (Various limitations on which appellant relied were not stated in the claims; the specification did not provide evidence indicating these limitations must be read into the claims to give meaning to the disputed terms.)

The applicant defines lateral movement of the chamber door relative to the chamber wall as movement of insert plate (reference item 78) in a direction parallel to latch face plate (reference item 64). See page 19 of the applicant's arguments. With this understanding of the applicant's definition, the applicant is wrong is suggesting that Bailey does not teach lateral movement. As seen in figures 2-5 the latch assembly of Bailey comprises an electromagnet (reference item 2) with a planer face member (not numbered). This electromagnet

contacts a generally planar-faced armature (reference item 3) in order to lock the door. The movement of the door (reference item 5) is along a parallel direction relative to the armature when securing or releasing the door, as seen in the door's movement in figures 3-5.

Adapting the door of Jaeger to have the electromagnet of Bailey would have been obvious as Dempster clearly teaches the use of electromagnetic latches for plethysmographic chambers. Furthermore, Bailey teaches that the electromagnetic latch allows the door to move a predetermined distance "A" before an alarm is issued. At this point the door is still latched. This predetermined distance can be adjusted to a preferred amount due to the fact that a) the pushbutton (reference item 9a) of the sensor (reference item 9) is screwed into the electromagnet and b) the plunger (reference item 8) that mates with the pushbutton is also adjustable. The combination of the pushbutton and plunger assembly provides an alarm in response to a small amount of door movement. This would be extremely beneficial to the applicant in that the distance "A" can be set to a small amount such that any change in the door's position can be determined when the plethysmographic chamber is in use. That is, if the door is moved or otherwise not secured sufficiently the operator of the plethysmographic chamber will be instantly notified thus reducing the number of tests with improperly sealed doors.

Finally, adapting the electromagnetic latch of Bailey to be used with the door of Jaeger would be obvious to one of ordinary skill. The door of Jaeger

Art Unit: 2856

more than likely has a latching means to keep the door secure when the chamber is in use in order to avoid. From Jaeger it is taught that the chamber must be substantially air-tight and that the changes to the interior volume, even small changes relative to the chamber's volume size, must be avoided. Jaeger further expressly teaches that influences, such as door opening and closing or people moving near the chamber can influence any volume measurement within the chamber. Since Jaeger more than likely uses a latching means, and Dempster teaches that it is known to use electromagnetic latches on the plethysmographic chamber, using the latching means of Bailey would only involve routine skill. See again MPEP §2144.07 and *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 8 USPQ2d 1323 (Fed. Cir. 1988).

Claim Objections

7. Claim 39 is objected to because of the following informality. The applicant amended this claim to read that the hinge "facilitates" repeatable door closure. The definition for facilitate was researched and the following definitions are noted:

Entry: fa·cil·i·tate

Function: transitive verb

to make easier : help bring about <a vehicle used to facilitate commission of the

Source: Merriam-Webster Dictionary of Law, © 1996 Merriam-Webster, Inc

Main Entry: fa·cil·i·tate

Function: transitive verb

to increase the likelihood, strength, or effectiveness of (as behavior or a response)

<reflexes can be facilitated or inhibited>; also to lower the threshold for transmission of (an impulse)

Source: Merriam-Webster Medical Dictionary, © 2002 Merriam-Webster, Inc.

facilitate

Art Unit: 2856

v 1: make easier; "you could facilitate the process by sharing your knowledge" [syn: ease, alleviate] 2: be of use; "This will help to prevent accidents" [syn: help] 3: physiology: increase the likelihood of (a response); "The stimulus facilitates a delayed impulse"

Source: WordNet ® 2.0, © 2003 Princeton University

From the above the term "facilitate" only means to help with obtaining/increasing the likelihood of repeatable door closure. It does not mean that the hinge provides the repeatable door closure.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 3,511,237 to Jaeger in view of United States Patent 406,247 to Webb and United States Patent 2,164,047 to Baumann.

Jaeger teaches a plethysmograph (volume measuring chamber) (reference item 10), as best seen in Figure 1. The chamber comprises a movably attached, tightly closing door (reference item 14). The attachment means is a hinge (unlabeled). Jaeger does not teach a door attached to the chamber using a dual articulating hinge. Dual articulating hinges for doors are very common. One can buy dual articulating hinges at most common hardware stores.

Webb teaches an example of such a dual articulating hinge, as best seen in Figure 3. The dual articulating hinge comprises a first leaf element (reference item D), a second leaf element (reference item F), and a hinge coupling strut (reference item E). Two hinge pins are provided to allow the coupling strut to pivotally move at two hinge pivots (reference items a and b). The use of a dual articulating door hinge on the chamber of Jaeger would have been obvious as it would allow the entire door to open clear of the chamber, as shown in Figure 12 of Baumann, thus ensuring that large items that are placed in the chamber do not hit and damage the door.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Jaeger with the teachings of Webb and Baumann to provide a chamber and a door attached to the chamber using a dual articulating hinge.

10. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jaeger in view of Webb and Baumann as applied to claim 39 above, and further in view of United States Patent 5,450,750 to Abler.

Jaeger in view of Webb and Baumann teaches a volume measuring chamber comprising a door attached to the chamber using a dual articulating hinge. Jaeger in view of Webb and Baumann does not teach the use of a seal attached to the door. Jaeger does teach that the door must be tightly closing.

It is well known in the art that elastomeric/resilient seals aid in forming tightly closed doors, lids, etc. Abler teaches a volume measuring chamber, as

best seen in Figure 1. The chamber (reference item 10) comprises a base (reference item 12) and a lid (reference item 18) attached to the base by means of a hinge (reference item 22). The chamber further comprises an elastomeric gasket (reference item 24) that encircles the upper lip (reference item 14) of the base that provides the sealing means between the base and the lid when the lid is closed. Providing the elastomeric gasket on the lid vice the base involves only routine skill in the art (just about any refrigerator comprises a sealing means located about the door's peripheral edge) and amounts to mere relocation of parts. See *In re Japikse*, 86 USPQ 70.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Jaeger in view of Webb and Baumann with the teachings of Abler to obtain an elastomeric gasket about the periphery of the door to allow the door to seal with the chamber.

11. Claims 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaeger in view of Webb and Baumann as applied to claim 39 above, and further in view of United States Patent 5,727,289 to Reder and United States Patent 2,930,074 to Marks.

Jaeger in view of Webb and Baumann teaches that it is known to use a dual articulating hinge on a chamber. Jaeger in view of Webb and Baumann does not teach the use of a spacer for defining a set distance between the first leaf and the second leaf.

Reder teaches an articulating hinge comprising a first leaf element (reference item 100), a second leaf element (reference item 200), and a hinge pin (reference item 155) for allowing the second leaf element to rotate relative to the first leaf element. The hinge further comprises a first stop element (reference item 10) and a second stop element (reference item 300) and adjustable screws (reference item 376). The adjustable screws allow the user to limit the maximum angular opening of the door, as shown in Figure 4. The first stop element acts, *inter alia*, as a load bearing surface for the adjustment screws or the door itself. Moving the adjustment screws to be on the first leaf element would involve only routine skill in the art, and would allow the user to control or otherwise maintain the door in an open position.

This is further taught in Marks where it is stated “In certain instances, it is desirable to provide a means for reliably maintaining swinging members, such as doors, in a desired open position, or to provide a means for preventing their inadvertent slamming because of winds, drafts, or other causes” (column 1, lines 20-24). In this regard, Marks teaches that it is known to attach a spacer (reference item 20) to a leaf vice attached to the hinge as in Reder. Attaching the screws of Reder to the second leaf would, in view of the teachings of Marks, allow one to control the amount of closing of the door. Furthermore, providing a load bearing surface on the first leaf would allow the screws to contact the bearing surface vice the leaf element, thus avoiding damage to the leaf element.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Jaeger in view of Webb and Baumann with the teachings of Reder and Marks to provide a spacer and a bearing surface on the leaves of a hinge to allow one to control the distance that a door swings when it closes.

12. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jaeger in view of Webb and Baumann as applied to claim 39 above, and further in view of "A New Air Displacement Method for the Determination of Human Body Composition" to Dempster *et al.*

Jaeger in view of Webb and Baumann teaches a volume measuring chamber comprising a hinge for attaching the door to the chamber. Jaeger in view of Webb and Baumann does not expressly teach the use of a latch for securing the door to the chamber. Dempster *et al.* teaches that it is known in plethymographic chambers to provide electromagnetic latching means for securing the door (page 1693, column 2). The electromagnetic latching means can provide a secure means for attaching the door to the chamber so that it does not release during the critical measurement period, and can be released by simply removing power to the latch in case of emergency.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Jaeger in view of Webb and Baumann with the teachings of Dempster *et al.* in order to provide a latch on

the door to secure the door to the chamber while measuring the volume of a subject in the chamber.

13. Claims 49 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaeger in view of Dempster *et al.* and United States Patent 4,915,431 to Bailey.

Jaeger teaches a plethysmograph (volume measuring chamber) (reference item 10), as best seen in Figure 1. The chamber comprises a movably attached, tightly closing door (reference item 14). The attachment means is a hinge (unlabeled). Jaeger does not teach the use of an electromagnetic latch assembly for latching the door to the chamber.

Dempster *et al.* teaches that it is known in plethymographic chambers to provide electromagnetic latching means for securing the door (page 1693, column 2). Dempster *et al.* does not expressly teach the use of a “laterally compliant” electromagnetic latch assembly.

Bailey teaches a laterally compliant electromagnetic latch assembly. The assembly comprises an electromagnet (reference item 2) with a generally planar face and a push button (reference item 9a). The assembly further comprises an armature plate (reference item 3) with a plunger (reference item 8). The plunger assembly contacts the push button when the door (reference item 5) is closed in order to actuate the electromagnet thus securing the door. Simple pushing on the door will open the door and will further release the plunger from the push button, thus deactivating the electromagnet. This type of

laterally compliant latch would be beneficial in the volume measuring chamber as it would maintain the position of the door when closed, but would also allow the occupant of the chamber to open the door in case of an emergency.

Furthermore, as set forth in paragraph 6 above, the latch member of Bailey also provides an indication when a predetermined distance "A" is exceeded and issues an alarm. This would be beneficial to the applicant as the distance "A" can be set to a small enough amount to allow one to determine if the door moves or otherwise is not in the preferred position before or during a test.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Jaeger with the teachings of Dempster *et al.* and Bailey in order to provide a laterally compliant electromagnetic latch for a volume measuring chamber.

14. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jaeger in view of Dempster *et al.* and Bailey as applied to claim 49 above, and further in view of Abler.

Jaeger in view of Dempster *et al.* and Bailey teaches a volume measuring chamber comprising a laterally compliant electromagnetic latch assembly. Jaeger in view of Dempster *et al.* and Bailey does not teach the use of a seal attached to the door. Jaeger does teach that the door must be tightly closing. It is well known in the art that elastomeric/resilient seals aid in forming tightly closed doors, lids, etc.

Abler teaches a volume measuring chamber, as best seen in Figure 1. The chamber (reference item 10) comprises a base (reference item 12) and a lid (reference item 18) attached to the base by means of a hinge (reference item 22). The chamber further comprises an elastomeric gasket (reference item 24) that encircles the upper lip (reference item 14) of the base that provides the sealing means between the base and the lid when the lid is closed. Providing the elastomeric gasket on the lid vice the base involves only routine skill in the art (just about any refrigerator comprises a sealing means located about the door's peripheral edge) and amounts to mere relocation of parts. See *In re Japikse*, 86 USPQ 70.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Jaeger in view of Dempster *et al.* and Bailey with the teachings of Abler to obtain an elastomeric gasket about the periphery of the door to allow the door to seal with the chamber.

15. Claims 54 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaeger in view of Dempster *et al.* and Bailey as applied to claim 49 and 53 above, and further in view of Webb, Baumann, Reber, and Marks.

Jaeger in view of Dempster *et al.* and Bailey teaches a plethysmograph (volume measuring chamber) (reference item 10), as best seen in Figure 1. The chamber comprises a movably attached, tightly closing door (reference item 14). The attachment means is a hinge (unlabeled). Jaeger in view of Dempster

et al. and Bailey does not teach a door attached to the chamber using a dual articulating hinge.

Dual articulating hinges for doors are very common. One can buy dual articulating hinges at most common hardware stores. Webb teaches an example of such a dual articulating hinge, as best seen in figure 3. The dual articulating hinge comprises a first leaf element (reference item D), a second leaf element (reference item F), and a hinge coupling strut (reference item E). Two hinge pins are provided to allow the coupling strut to pivotally move at two hinge pivots (reference items a and b). The use of a dual articulating door hinge on the chamber of Jaeger would have been obvious as it would allow the entire door to open clear of the chamber, as shown in figure 12 of Baumann, thus ensuring that large items that are placed in the chamber do not hit and damage the door.

Jaeger in view of Dempster *et al.*, Bailey, Webb, and Baumann does not teach the use of a spacer on the hinge for defining a set distance between the first leaf and the second leaf. Reder teaches an articulating hinge comprising a first leaf element (reference item 100), a second leaf element (reference item 200), and a hinge pin (reference item 155) for allowing the second leaf element to rotate relative to the first leaf element. The hinge further comprises a first stop element (reference item 10) and a second stop element (reference item 300) and adjustable screws (reference item 376). The adjustable screws allow the user to limit the maximum angular opening of the door, as shown in Figure

4. The first stop element acts, *inter alia*, as a load bearing surface for the adjustment screws or the door itself. Moving the adjustment screws to be on the first leaf element would involve only routine skill in the art, and would allow the user to control or otherwise maintain the door in an open position.

This is further taught in Marks where it is stated “In certain instances, it is desirable to provide a means for reliably maintaining swinging members, such as doors, in a desired open position, or to provide a means for preventing their inadvertent slamming because of winds, drafts, or other causes” (column 1, lines 20-24). In this regard, Marks teaches that it is known to attach a spacer (reference item 20) to a leaf vice attached to the hinge as in Reder. Attaching the screws of Reder to the second leaf would, in view of the teachings of Marks, allow one to control the amount of closing of the door. Furthermore, providing a load bearing surface on the first leaf would allow the screws to contact the bearing surface vice the leaf element, thus avoiding damage to the leaf element.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Jaeger in view of Dempster *et al.* and Bailey with the teachings of Webb, Baumann, Reder, and Marks to provide a dual articulating hinge with a spacer and a bearing surface on the leaves of a hinge to allow one to control the distance that a door swings when it closes.

Allowable Subject Matter

16. Claims 43-45, 47-48, 50-51, and 56-58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Rogers whose telephone number is (571) 272-2205. The examiner can normally be reached on Monday - Friday (0730 - 1600).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dar
16 August 2004


HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800